

WHAT IS CLAIMED IS:

1. A retractable safety syringe comprising:

a syringe barrel (10) having a fixing hole (12) defined in an upper end thereof and a thumb press (16) formed at a lower end thereof;

a needle mount (20) assembled in the fixing hole (12) and retained at the upper end of the syringe barrel (10), and integrally formed with an outer hub (22) and an inner hub (24), wherein the inner hub (24) has a fluid passage defined in a center thereof and a plurality of equal-spaced spring clamps (240) formed around a lower end of the fluid passage and extending in an inclined direction towards an upper end of the fluid passage;

a plunger rod (30) consisting of a rod (31) and a plunger (32) detachably connected at an upper end of the rod (31), wherein the plunger (32) has a plunger crown (322), a cone-shaped tip end portion (324) formed on a top of the plunger crown (322), and a neck portion (326) formed between the tip end portion (324) and the plunger crown (322);

a needle (40) including a connecting portion (41) and a needle cannula (42);

whereby when the plunger rod (30) is completely extended into the syringe barrel (10), the tip end portion (324) is inserted into the fluid passage of the needle mount (20), the neck portion (326) is clamped by the plurality of spring clamps (240), therefore, the medicine fluid is able to flow over gaps between each two adjacent spring clamps (240) toward the needle (40), and then the needle (40) and the needle mount (20) are connected with the plunger rod (30) and retractable with the plunger rod (30).

2. The retractable safety syringe as claimed in claim 1, wherein the outer hub (22) has a female thread (222) formed around an internal surface thereof, the connecting portion of the needle (40) is formed with a male thread corresponding to the female thread (222) of the outer hub (22).

1 3. The retractable safety syringe as claimed in claim 1, wherein the outer hub (22)
2 has a plurality of notches (220) defined around an upper end thereof.

3 4. The retractable safety syringe as claimed in claim 1, wherein the outer hub (22)
4 has a plurality of chamfers (220') formed around an external surface thereof.

5 5. The retractable safety syringe as claimed in claim 1, wherein the syringe barrel
6 (10) has a retaining edge (14) integrated around an internal surface near the upper end
7 thereof, the needle mount (20) is assembled in the fixing hole (12) and limited by the
8 retaining edge (14).

9 6. The retractable safety syringe as claimed in claim 1, wherein the syringe barrel
10 (10) has an annular retaining groove (18) defined around the internal surface near the lower
11 end thereof, when the plunger rod (30) is retracted, a peripheral edge of the plunger crown
12 (322) is limited by the retaining groove (18) within the syringe barrel (10).

13 7. The retractable safety syringe as claimed in claim 1, wherein the rod (31) has a
14 joint block (304) formed at an upper end thereof, and the plunger (32) has a joint groove
15 (320) defined in a lower end thereof to receive the joint block (304) detachably fitted
16 therein.